

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-78 (canceled)

1 Claim ²~~79~~ (previously presented): The method of Claim ¹~~91~~ wherein the receptor
2 is bound to the substrate.

1 Claim ³~~80~~ (previously presented): The method of Claim ¹~~91~~ wherein the ligand is
2 bound to the substrate.

1 Claim ⁴~~81~~ (previously presented): The method of Claim ¹~~91~~ wherein the receptor
2 is a cell surface receptor.

1 Claim ⁵~~82~~ (previously presented): The method of Claim ¹~~91~~ wherein the receptor
2 is an intracellular receptor.

1 Claim ⁶~~83~~ (previously presented): The method of Claim ¹~~91~~ wherein the recep
2 is a hormone receptor.

1 Claim ⁷~~84~~ (previously presented): The method of Claim ²~~79~~ wherein the receptor
2 is comprised within a cell membrane.

1 Claim ⁸~~85~~ (previously presented): The method of Claim ¹~~91~~ wherein the receptor
2 or the ligand docked to the substrate is docked to the substrate through a linker.

Claim 86 (canceled)

1 ~~Claim 87 (previously presented): The method of Claim 91 wherein the receptor~~
2 ~~or the ligand docked to the substrate comprises a fusion protein.~~

1 Claim 88 (previously presented): The method of Claim 92 wherein the moiety
2 for specific binding is an Fc fragment and the receptor or the ligand docked to the substrate is
3 docked to the substrate through protein A.

1 Claim ⁹~~88~~ (currently amended): The method of Claim ¹~~91~~ wherein the agent is a
2 small organic molecule having a size up to about 5000 daltons.

1 Claim 90 (previously presented): The method of Claim 93 wherein said plurality
2 of agents comprises a combinatorial library.

1 Claim ¹~~91~~ (currently amended): A method for determining whether an agent
2 modulates binding between a receptor/ligand pair that specifically bind to each other, the method
3 comprising the steps of:

4 a) providing a mass spectrometry probe, the probe comprising a substrate having
5 a surface and a receptor or ligand of said receptor/ligand pair docked to a surface of the substrate
6 through an adsorbent;

7 b) exposing the receptor or the ligand docked to the substrate to its binding
8 partner and to said agent under an elution conditions that allows for binding between the receptor
9 and the ligand;

10 c) removing unbound binding partner from the surface of the substrate;

11 d) measuring the amount of binding partner retained on ~~bound to~~ the docked
12 receptor or ligand in the presence and absence of the agent by laser desorption mass
13 spectrometry of any retained ~~bound~~ binding partner from the surface of the substrate; and

14 e) determining whether the agent modulates binding by comparing the measured
15 amount of binding between the receptor and the ligand in the presence and absence of the agent
16 whereby a difference between the measured amount of binding between the receptor and ligand
17 in the presence and absence of the agent indicates that the agent modulates binding between the
18 receptor/ligand pair.

1 Claim 92 (previously presented): The method of Claim 87 wherein the fusion
2 protein further comprises a moiety for specific binding.

1 Claim 93 (previously presented): The method of Claim 91, wherein said method
2 is a screening method and said agent comprises a plurality of agents, whereby said plurality of
3 agents is screened by determining whether said plurality of agents modulates binding between a
4 receptor/ligand pair that specifically bind to each other.

1 Claim 94 (previously presented): The method of Claim 93, wherein said plurality
2 of agents is screened in parallel.

1 Claim ¹⁰95 (previously presented): The method of Claim ⁸85, wherein the linker is
2 a bifunctional linker.

1 Claim ¹¹96 (previously presented): The method of any one of Claim ¹91 or Claim
2 93 wherein said agent inhibits binding between said receptor/ligand pair.

1 Claim ¹²97 (previously presented): The method of any one of Claim ¹91 or Claim
2 93 further comprising applying a matrix material to the surface before laser desorption mass
3 spectrometry.

1 Claim ¹³98 (previously presented): The method of any one of any one of Claim ¹91
2 or Claim 93 wherein the probe further comprises energy absorbing molecules chemically bound
3 to the surface before exposing.